

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0001] of the specification with the following rewritten paragraph:

Technical Field

[0001] The present invention relates in general to temperature control in an aircraft cabin.

Please replace paragraph [0002] of the specification with the following rewritten paragraph:

Background

[0002] Systems which extract hot exhaust air from turbines of an aircraft driving apparatus are generally employed for ~~[[For]]~~ the control of temperatures in aircraft cabins ~~are generally employed systems, which extract hot exhaust air from turbines of the aircraft driving apparatus.~~ This hot air, referred to as driving apparatus tap air, is cooled down to a temperature desired in the aircraft cabin. In the case of aircrafts, whose cabins are divided into different temperature areas or climate zones, a portion of the hot air is cooled down to the lowest temperature of one or more temperature areas. In order to achieve higher temperatures in other temperature areas, a portion of the hot air is branched off before the cooling to the lowest temperature, is cooled to a lesser degree, thus brought to a temperature above the lowest temperature, and mixed with the air that has been cooled to the lowest temperature such that in these temperature areas the desired temperatures are achieved. With such a system, which is also known as the "Trim-Air System", individually adjustable temperatures can be provided in the different temperature areas of an aircraft cabin.

Please replace paragraph [0005] of the specification with the following rewritten paragraph:

[0005] In order to indicate current temperatures prevailing in the temperature zones 10 to 24, temperature sensors 26 to 40 (duct sensors) are used. The temperature sensors 26 to 40 are disposed in end areas (not shown), ~~which serve for a supply of air into the temperature areas 6 and 8,~~ of air outlet ducts 42 to 56 (ducts), which serve for a supply of air into the temperature areas 6 and 8. Moreover, further temperature sensors (not shown) are disposed in the aircraft cabin 4 itself in order to provide additional information about temperatures in the temperature zones 10 to 24.

Please replace paragraph [0020] of the specification with the following rewritten paragraph:

Summary

[0020] This object is achieved by the present invention by way of the device and the method that are defined in the following description and independent claims.

Please replace paragraph [0025] of the specification with the following rewritten paragraph:

[0025] In the case of a malfunction of the first supply control arrangement, is indented to achieve, depending on the specified second temperature, by means of the first pressure control arrangement the temperature control by control of a current pressure in the first supply control arrangement depending on the specified second temperature. This pressure-controlled temperature control in the aircraft cabin is particularly beneficial in the event that the first supply control arrangement comprises different components for a supply of heated air from the first

source into the first temperature area and the second temperature area. Should the malfunction of the first supply control arrangement relate to the second temperature area, the second temperature area can be temperature-controlled comparably with respect to normal operation depending on the specified second temperature by means of the pressure control. As described in greater detail below, there is no requirement that the supply-controlled temperature control of the first temperature area ~~is also~~ be replaced by a pressure control.

Please replace paragraph [0037] of the specification with the following rewritten paragraph:

[0037] Preferably, the control of the supply of air to a temperature area is accomplished by means of a valve arrangement included in ~~comprised by~~ the supply control arrangement provided for this temperature area. In this case the valve arrangement can be disposed at the corresponding air outlet in order to supply temperature-dependently controlled heated air to the corresponding temperature area.

Please replace paragraph [0040] of the specification with the following rewritten paragraph:

[0040] The device according to the invention can comprise at least one pressure detecting arrangement associated to a pressure control arrangement in order to detect the current air pressure in the corresponding supply control arrangement. The use of a pressure detecting arrangement permits the use of a pressure controlled valve as pressure control arrangement associated thereto, which pressure controlled valve, for example, in normal operation can be differently controlled from preliminary settings. A pressure detecting arrangement further supplies ~~permits to supply~~ the corresponding pressure control arrangement in the event of a

malfunction of the allocated supply control arrangement with information about currently prevailing pressures in this supply control arrangement without the use of separate pressure detecting systems.

Please replace paragraph [0042] of the specification with the following rewritten paragraph:

[0042] When the device according to the invention is provided, for example, for the supply of the first temperature area and of the second temperature area, it is possible to establish a connection between the first supply control arrangement and the second supply control arrangement by means of the connecting arrangement. Should ~~should~~ one of the pressure control arrangements malfunction in normal operation, the other pressure control arrangement supplies both supply control arrangements ~~in order to supply both supply control arrangements by means of the other pressure control arrangement~~. Using of the device according to the invention for more than two temperature areas permits that the connecting arrangement ensures the continued ~~during malfunction continues~~ the temperature controlled heating and/or cooling of the temperature areas not affected by the malfunction, by connecting the first supply control arrangement and the second supply control arrangement with each other such that the unaffected temperature areas are serviced by a pressure control arrangement. The temperature area affected by the malfunction can then be pressure-controlled maintained at the respective temperature by the other pressure control arrangement.

Please replace paragraphs [0045]-[0051] of the specification with the following rewritten paragraphs:

Brief Description of the Drawings

[0045] The following refers to preferred embodiments with reference to the figures included which show:

[0046] FIG. 1 is a schematic illustration of a known system for temperature control in an aircraft cabin,

[0047] FIG. 2 shows a device according to the invention provided for one temperature area for temperature control in an aircraft cabin (single-quadrant system),

[0048] FIG. 3 shows a device according to the invention provided for two temperature areas comprising a pressure control arrangement for temperature control in an aircraft cabin,

[0049] FIG. 4 shows a device according to the invention provided for two temperature areas comprising two pressure control arrangements for temperature control in an aircraft cabin (two-quadrant system), and

[0050] FIG. 5 shows a device according to the invention provided for four temperature areas for temperature control in an aircraft cabin (four-quadrant system).

Detailed Description

[0051] FIG. 1 illustrates an embodiment of a system 102 for temperature control in an aircraft cabin 104, particularly in a temperature area 106 of the aircraft cabin 104.

Please replace paragraphs [0053]-[0054] of the specification with the following rewritten paragraphs:

[0053] In order to control the supply of heated air in the temperature zones 110 to 124, valves 158 to 172 are respectively disposed in the air outlet ducts 142 to 156 ~~valves 158 to 172~~.

Based on signals/data of the temperature sensors 126 to 140, a controller 174 controls the valves 158 to 172 such that a specified temperature for the temperature area 106 is achieved.

[0054] Heated air originating from one or a plurality of turbines of the aircraft drive (i.e., a first source 300 of heated air) is supplied via a pressure-controlled valve 176. The valve 176 is pressure-controlled and serves as a pressure control arrangement for air pressure in an air duct 180, which is connected with the valve 176 by an air intake 181 and comprises an area 184, which is connected with the air outlets 142 to 156, in order to supply heated air supplied via valve 176 via the valves 158 to 172 to the temperature zones 110 to 124.

Please replace paragraphs [0057]-[0058] of the specification with the following rewritten paragraphs:

[0057] In normal operation the valve 176 is actuated by the controller 174 depending on pressures present in the air duct 180 such that in the air duct 180 a constant pressure relative to a current prevailing pressure in the aircraft cabin 104 is maintained. As opposed to the prior art system described at the outset, in normal operation the pressure controlled valve 176 is permitted ~~permits~~ to vary such that ~~;-in-controlled-means;~~ the desired pressure in the air duct 180 is controlled relative to the internal pressure in the aircraft cabin 104.

[0058] In normal operation, the temperature of the temperature area 106 is controlled by detecting, by means of the temperature sensors 126 to 140, information about the prevailing temperatures in the temperature zones 110 to 124 and by closing or opening the valves 158 to 172 (to a sufficient degree) by the controller 174 to an extent ~~extend~~ to achieve the desired temperature for the temperature area 106. In addition to the illustrated temperature sensors 126 to 140, further temperature sensors can be used in temperature area 106, for example, associated to the temperature zones 110 to 124 (not shown) in order to obtain additional information about

current prevailing temperatures in the temperature area 106 and/or the temperature zones 110 to 124.

Please replace paragraph [0067] of the specification with the following rewritten paragraph:

Technical Field

[0067] In the case of the embodiment illustrated in FIG. 4, the system 102 serves for temperature control in an aircraft cabin 104 with two temperature areas 106 and 108. This system 102 can be described as a two-quadrant system since the temperature areas 106 and 108 can be operated as areas with separate temperature control. The temperature area 106 comprises temperature zones 110 to 116, which are supplied with heated air via air outlet ducts 126 to 132, valves 142 to 148, an air duct 180, a check valve 109, an air outlet 181 and a valve 176 serving as a pressure control arrangement, the valve 176 communicating with the first source 300 of heated air. The temperature area 108 comprises temperature zones 118 to 124, which are supplied via air outlet ducts 134 to 140 and valves 150 to 156 and an air duct 182 and a check valve 192 and an air outlet 183 and further valve 178, which serves as a further pressure control arrangement and is communicating with a second source 301 of hot air. For the purpose of pressure detecting, in the air duct 180 and 182 pressure sensors 177 and 179 are provided, which are associated to the pressure control arrangement 176 and/or 178. Information about temperatures in the temperature areas 106 and 108 is obtained by means of temperature sensors 126 to 132 and/or 134 to 140.